Megaliths, memory and the power of stones

Chris Scarre, Department of Archaeology, Durham University

The distinctive character of many of the stone slabs used in the construction of megalithic monuments in western Europe suggests that these slabs may have been intended to convey memories of the places from which they were taken. The appearance of the blocks (notably their shape, size, texture and colour) will have provided visual clues to the sources of origin. Some of the sources may have been recognised by the prehistoric builders as places of special power within the landscape, and the stones may have embodied those powers of place and their associations. Memories were also conveyed through the re-use of slabs taken from earlier monuments, a practice that has been documented at chambered tombs in Iberia, France and Britain. The visual clues provided by the megalithic slabs will, however, have been compromised by their inclusion within a covering mound or cairn, a feature that sparked 19th century antiquarian debate. These issues are discussed in the light of recent excavations at the Anta da Lajinha, a small megalithic tomb in inland Portugal north of the Tagus valley.

The use of megalithic blocks in the prehistoric monuments of western Europe has both impressed and intrigued antiquaries and archaeologists for many years. The word implies the use of large stones, and indeed the blocks involved can weigh as much as 100 tonnes or more. Some have sought to deconstruct the concept of 'megalithic', and have quite rightly emphasised that 'megalithic' monuments form but a part of a broader pattern of monument construction that involves timber, earth and dry stone. Yet, dependent though it is on the availability of local materials and the character of the local geology, it is difficult to believe that megalithic architecture was in any way opportunistic.

The very size of the blocks would have made them difficult to transport and use. The raising of these large masses of stone upon each other to create a chamber was not an easy option, but involved particular skills, a certain degree of danger, and – where megalithic blocks were involved – a large labour force. In some cases, particular blocks were brought from a considerable distance.

This suggests that the stones themselves, or the places they were taken from, were of especial importance. The contention can be backed up by evidence that within the burial chambers, the stones were in a sense on 'display'. Thus in northern Europe, the dry-stonework was not only carefully adjusted to fit it contours of the megalithic blocks, but was sometimes picked out by use of differently coloured stone or by white paste or birch-bark infill between the stone courses (Dehn & Hansen 2006). In other areas of western Europe, the megalithic blocks themselves might be of different colours, and arranged in a controlled and patterned manner through the monument.

The use of megalithic blocks finds a close parallel in the use of massive timbers in other Neolithic monuments. Thus at Haddenham in eastern England, the burial chamber beneath one end of a long mound was constructed of what were effectively slabs of wood taken from large oak trees 300-400 years old and 1.5m in diameter (Morgan in Evans & Hodder 2006, 116). The ritual or symbolic significance of major trees is reinforced by the discovery of the Holme-next-the-Sea timber circle, on the

east coast of Britain, where the lower part of an oak tree, complete with roots, had been inverted and raised upright in a socket at the centre of a circle of posts (Brennand & Taylor 2003). The circle has been dated to the end of the 3rd millennium BC, but the concept of sacred trees may have had a long prehistory.

The deployment of massive elements taken from nature, be they stone blocks or mighty oaks, seems thus to constitute a leading feature of the monuments built by prehistoric communities in western Europe during the 5th, 4th and 3rd millennia BC. Large trees and prominent boulders or outcrops may all have been considered to possess particular significance, or to be places of special power. By taking their materials from these places, the builders of the tombs were seeking perhaps to appropriate and incorporate the power and significance of those places in the monuments that they were creating. In this context, the megalithic blocks could have had a particular rôle as visible and tangible links to important locations within the landscape; and the shapes, textures and colours of those stones may, to those with the necessary knowledge, have constituted the enduring memory of those links.

The contention that megalithic monuments incorporate the memories and associations of particular places from which the materials came may help to explain the west European tradition of megalithic construction. The rocky landscapes of the Atlantic façade provided both ample supplies of stone and a prominent series of landscape features that may have been places of special mythical, symbolic, or cosmological significance. The appearance and texture of the individual megalithic blocks will in themselves have provided an indication of the sources from which they were taken. In one of the earliest studies of its kind, for example, Arthur Mourant distinguished seven different varieties of stone among the megalithic slabs of La Hougue Bie on Jersey (Mourant 1933). Some came from places close to hand, but others were from sources on the opposite side of the island. There was also a particular connection with the coast: fifteen of the blocks from La Hougue Bie were visibly wave-worn, and others too were rounded; only 15 of the 65 blocks were angular, and though he observes that these must have been "in a broad sense" quarried, he adds that they too may have been obtained from rocks on the foreshore (Mourant 1933, 220).

In other cases, megalithic monuments incorporated stones that had already had a history either as standing stones or as parts of dismantled megalithic structures. Once again, these stones will often have presented visual clues that disclosed their earlier history. A classic example is the passage grave of Maes Howe on Orkney, where the passage walls are formed by long monolithic blocks. These closely resemble in form the standing stones of the nearby Stenness stone circle, and the discovery of stone holes in the platform beneath the mound of Maes Howe strongly suggests that the long stones in the passage had originally been part of a stone circle that was dismantled to make way for the Maes Howe passage grave (Richards 1996; 2003).

The Maes Howe stones are impressive both in their size and in their distinctive shape, tapering to acutely angled points that reflect the natural fault lines of the Orkney sandstone. These visual cues were retained when the monoliths were incorporated into the sides of the passage. In most passage graves, however, the visual appearance of the original megalithic blocks would have been partially or indeed predominantly obscured by their incorporation in a chambered structure that was ultimately covered by a mound. In the 19th century there was considerable debate as to whether all

chambered tombs had originally been covered by a mound, or whether, conversely, some had been left free-standing so that the megalithic blocks – in particular the capstones – remained visible. In his famous *Essai sur les dolmens*, the Baron de Bonstetten divided tombs of megalithic construction ('dolmens') into "dolmens apparents" and "dolmens recouverts d'un tumulus" (Bonstetten 1865) The argument was taken up by James Fergusson in *Rude Stone Monuments* (1872). Fergusson argued that it was implausible that those who had built such impressive monuments had intended the visible proof of their skill to have been hidden from view within a tumulus:

"The mode of architectural expression which these Stone men best understood was the power of mass. At Stonehenge, at Avebury, and everywhere, . . . they sought to give dignity and expression by using the largest blocks they could transport or raise – and they were right; for, in spite of their rudeness, they impress us now; but had they buried them in mounds, they neither would have impressed us nor their contemporaries." (Fergusson 1872, 169)

Others were unconvinced by these arguments. The Rev. W.C. Lukis, for example, maintained that free-standing megalithic chambers were merely the denuded remains of chambered barrows, and that all had originally been covered by a mound (Lukis 1864). Excavations since the 19th century have consistently demonstrated the presence of a mound or cairn, sometimes reduced to a faint outline, around the foot of these megalithic chambers. Yet the survival of the footings of a mound does not automatically imply that the mound completely covered and concealed the chamber. The portal dolmen of Pentre Ifan in southwest Wales provides a good example. A famous lithograph of 1865 shows mounted horsemen sheltering beneath the great capstone. The impressive character and appearance of the monument led some 19th century antiquaries (including James Fergusson) to argue that Pentre Ifan could never have been covered by a cairn. Yet in the brief account that accompanied the 1865 lithograph Longueville Jones had observed that traces of a cairn might still be found at Pentre Ifan, "if the soil all around were carefully proved and examined" (Longueville Jones 1865, 285). This prescient observation was borne out by excavations undertaken in 1936-7 which revealed that the chamber of Pentre Ifan stood at the centre of a deep semicircular forecourt, behind which had stretched a cairn 39m in length (Grimes 1948).

The encasing of Pentre Ifan within a mound would result in a monument radically different in appearance from the denuded chamber that greets the visitor today. It also has serious implications for the symbolic significance of the massive tilted capstone. Chris Tilley has argued that the capstone provided a direct visual link with the mountain crag of Carn Ingli some 3.5 kilometres to the west. The burial mound of Pentre Ifan (like the crag) was oriented north-south. Furthermore the capstone (like the crag) dips from north to south. Tilley concludes that "important architectural features of the monument seem to duplicate the outline of the mountain outcrop" (Tilley 1994, 105). Yet unless the form and height of the cairn can be demonstrated, it remains distinctly possible that the capstone of Pentre Ifan was intended to be entirely hidden from view. It has also been observed that the tilted placement of the Pentre Ifan capstone is not a feature unique to this monument but that sloping capstones are a common and distinctive feature of portal tombs as a whole (Fleming 1999, 121). One possibility is that the cairn at Pentre Ifan rose only to the height of the base of the

capstone, leaving visible the capstone itself (Turner 1992, fig. 8). An alternative interpretation is that at portal dolmens in general the 'cairn' was simply a low platform around the foot of the megalithic chamber (Kinnes 1975, 25; Cummings & Whittle 2004, 74; Whittle 2004).

Recent interpretations of the megalithic tombs of southwest England, across the Bristol Channel, have also tended to assume that the megalithic elements were externally visible. Tilley & Bennett, building on earlier work (Tilley 1996; Bradley 1998) have compared the portal dolmens of West Penwith in Cornwall to the natural granite outcrops known as tors (Tilley & Bennett 2001). In their eroded condition, the tors take the form of outcrops surrounded by stacks of detached blocks. Tilley & Bennett argue that prehistoric populations may have regarded the tors and other natural features as either the petrified shapes of ancestral beings or as the work of ancestors who sculpted the rocks. The portal dolmens were built of megalithic blocks taken from these stacks and outcrops, such that dolmens and tors came to resemble each other closely. Tilley & Bennett contend that the dolmens were built to imitate tors:

"It is not that the tors look like dolmen chambers, but that the dolmens look like tors. . . . The tors were not only their source of inspiration, but they were constructed in the form of tors. In elevating large stones, these people were emulating the work of a super-ancestral past. Furthermore, the stones from which they were built were taken from the tors. The dolmens, in effect, were the tors dismantled and put back together again to resemble their original form." (Tilley & Bennett 2001, 354).

This interpretation makes no concession to the possibility that the portal dolmens of West Penwith were covered by or concealed within mounds. Nor is much attention paid to their traditionally assumed role as burial places, albeit (as in southwest Wales) the granitic geology has prevented the survival of any human remains. The implication, however, is that taking by blocks from the tors to construct tombs and placing their dead within the resulting dolmens the prehistoric communities would have been burying them within artificial 'tors'. The relationship was modified and finessed in the Early Bronze Age, when cairns for the dead were built among the tors themselves (Tilley & Bennett 2001, 354).

The proposal that megalithic tombs may represent the reconstitution of an 'exploded' natural landform can be posited in other contexts outside Britain. Thus on the North European plain, where megalithic tombs are built of split glacial erratics, it is the smooth inner faces of the blocks that are turned to the inside, as if the dead were being buried symbolically within the erratics themselves. In Portugal, Walter Vortisch and Wolfgang Dehn have demonstrated how the constituent elements of Alentejan megalithic chambers can be traced back to specific parts of the original granite outcrops (Dehn *et al*. 1991; Vortisch 1999). The concept works particularly well where the capstone retains the weathered and rounded upper surface of the outcrop, and where the orthostats have been extracted by exploiting vertical fissures in the outcrop. In such cases, the tombs might be taken symbolically to represent the outcrop, although the fact that tombs do not invariably follow this pattern should warn us against an overly symbolic interpretation. Technical considerations no doubt also played a part in guiding the placement of the megalithic blocks that were extracted from different parts of the rock outcrop.

A number of Alentejan tombs have cup marks on orthostats or capstones. Anta 1 at Paço das Vinhas had 16 cup marks on the upper surface of the capstone, and they were also present on the capstones of Anta 1 at Casas do Canal, Bencafêde and Cabaconhitos (Gonçalves 1992; Dos Santos 1994). These probably represent the removal of slabs from outcrops on which cup-marks had already been carved. At Olival da Pega 2, the two outermost passage orthostats had numerous cup-marks on their outer faces, that would have been hidden once the cairn was built. It is possible that these two stones had originally been free-standing menhirs that were subsequently converted into orthostats (Gonçalves 1992, 263). At all events, the cup-marks must have been carved before the slabs were placed in their final position within the tomb. Cup-marks are found on natural outcrops in the Alentejo region, and it may be that stones taken from such outcrops were considered especially powerful.

Once again, questions of visibility must be addressed. Some Alentejan tomb chambers may have resembled granite outcrops that had been reassembled, but most if not all were originally concealed within a mound. Substantial traces of the original mound still survive at monuments such as Anta 1 in the Vale de Rodrigo, Anta 1 at Paço das Vinhas, Anta Grande do Zambujeiro and Anta Grande da Comenda da Igreja. Equally, it has been suggested that Anta 3 in the Vale de Rodrigo may not have been covered by a mound (Kalb 1996, 685), so the practice may not have been universal.

In Galicia, too, it has been argued that in some cases at least, the chamber and capstone protruded above the surface of the mound. Felipe Criado and Fabregas Valcarce have suggested that the visibility of the chambers within the mounds varied over time, as a result of a kind of dialectical tension between the two elements. As the mound became less important, chambers grew to attain lengths of 7 or 8 metres, and the upper part of the orthostats and capstone rose visibly above the surface of the mound (Criado & Fabregas 1989, 687). At Dombate, the excavator concluded that the mound, measuring 24m diameter and preserved to a height of 1.8m, would originally have covered the passage but not the chamber, and that the latter would have projected above the top of the mound. The space between the orthostats at the back of the chamber was carefully sealed by a vertical stone of regular size, and the interior surfaces were coated with white plaster and painted with red and black motifs in a pattern that covered not only the individual orthostats but also the spaces between them (Bello Dieguez 1996). Hence in this instance the megalithic blocks may have been visible externally but were masked internally by plaster and paint.

The Anta da Lajinha

The issue of external visibility of orthostats and capstone has arisen again in the course of recent excavations at the Anta da Lajinha, a small megalithic tomb in the hill country of inland Portugal to the north of the River Tagus, 150 kms upstream from Lisbon and 50 kms from the Spanish frontier. The field project initiated here in 2006 by Durham University in conjunction with the Instituto Politécnico di Tomar seeks to understand the structure of the monument and in particular to establish its original environment in terms of vegetation and soils.

The tomb stands at the highest point of a spur projecting into the Vale de Pereiro. The ground falls away on all sides, but most steeply to north, east and west. The tomb is

hence in a locally prominent position, although enclosed within a basin framed by higher ground on all sides. The remains are those of a passage grave constructed of schist orthostats at the centre of a circular mound some 10 metres in diameter. The tomb had been heavily disturbed before the current excavations began. Some of this disturbance can be dated to the 20th century, since a brief description published in 1939 indicates a structure consisting of eight orthostats, whereas by 1967 only six of these remained, and of those only two were undisturbed (Silva Louro 1939; Horta Pereira 1970). There were scanty remains of an entrance on the eastern side of the chamber, though it was not possible to trace the plan of the passage. This was the condition of the monument when excavations began in 2006.

The chamber is of irregular oval plan and measures approximately 1m by 1.2m across. In addition to the two undisturbed orthostats at the rear (west) of the chamber, the positions of two others were revealed by stumps, and displaced fragments of two further orthostats survive on the northern and southern sides of the chamber. The surviving orthostats and the stumps all had a pronounced inward inclination, and of the two western orthostats the southernmost overlapped and rested against the edge of the northern stone. The original form of the chamber was hence clearly a series of eight orthostats leaning inwards, each resting against its neighbour for support. The capstone that once covered and completed this structure has long since disappeared. Of the passage that adjoined the chamber on the east, little remains *in situ* save a single massive block at the southern junction with the chamber. A second large block resting against it appears to be disturbed and might be a displaced orthostat or capstone from either the passage or the chamber. Excavation on the line of the passage revealed a confused jumble of stone fragments that may be the result of intentional destruction, though the interpretation of this deposit will need to await further excavation.

The two surviving undisturbed orthostats are substantial slabs of blue-grey schist. The photographs published in 1939 show that these were the largest of the orthostats (Silva Louro 1939, 12). They measure respectively 1.14m and 0.83m in maximum width, with a visible height of approximately 1.2m. Both have been severely damaged by forest fires, and the laminar structure of the stones is encouraging active exfoliation of the surfaces. Examination of the surfaces does however reveal successive stages in the history of these blocks. In both cases, the surface of the lower part of the orthostat consists of a weathered light grey surface tending to brown or even green in places. This may be the original surface of the stone. Above this is an extensive area of uniform dark grey appearance corresponding to a recent episode of exfoliation, where the newly exposed surface has not had sufficient time to weather. Between ancient surface and recently exposed surface there is a third surface, most clearly visible on the southern orthostat. This is blue-grey in colour. It covers the lower southern part of the slab, and is preserved in patches at the top of the stone, where it appears to correspond to a process of shaping which has given the upper profile a rounded shape, worked upwards from both front and back to a longitudinal keel. Other fragments of schist slabs with rounded and keeled edges were recovered lying loose on the surface of the site. The correspond most probably to the shaping of the orthostats by the prehistoric builders.

The preservation of the worked surface at the top of the southern orthostat implies that this stone is preserved to its full height, and hence enables us to determine the height

of the chamber as a whole. Though the original capstone is long gone, we are hence able to estimate the original height of the megalithic structure as greater than 1.5m. By contrast, the mound, a stone-free structure of silty decayed schist, survives today to a height of only 0.6m against the rear of the chamber orthostats. Its original height is difficult to determine, but the absence of slip outside the kerb of the mound suggests that it may never have been substantially higher than it is today. If that is correct, then the upper part of the chamber orthostats and the capstone would have been left visible. This would have established a visual link between the material of the orthostats and the source from which they were derived.

The orthostats of the Anta da Lajinha do not come from the immediate vicinity of the site. The schist bedrock on which the monument stands is vertically bedded, heavily eroded and brown/grey in colour, furnishing only small to medium-sized cobbles. The wider area around the site is however punctuated by parallel rows of schist outcrops. These are prominent and in some cases spectacular landscape features, creating as it were a series of 'natural' monuments. Field survey identified one set of outcrops1km east of Lajinha that was associated with prehistoric surface material including a finely flaked hollow-based arrowhead of flint. This type of arrowhead is dated to the early Chalcolithic period (late 4th millennium BC), and further investigations will be undertaken to identify the nature of prehistoric activity at this location.

Closer to the Anta da Lajinha, some 200 metres east of the site, a series of four parallel rows of schist outcrops runs obliquely down the hillside towards the Vale de Pereiro. These outcrops, though damaged by recent fires, attain heights of up to 3 metres and are visually identical to the material of the intact orthostats of Lajinha. It is not possible to assert that the orthostats came from this precise location, but it highlights the likelihood that the orthostats were derived from prominent outcrops of the blue-grey schist that runs in bands across the landscape. Ethnographic evidence suggests that outcrops such as these would in themselves have been sufficiently intriguing to have been the subject of myths and stories by prehistoric populations. They may have been thought places of particular power. That contention finds support in the site of Jogada 5, in the Zêzere valley to the west of Lajinha, where a natural outcrop was 'monumentalized' in the Chalcolithic period.

Conclusion

It is not my contention here to revive the 19th century debate on the presence or absence of covering mounds at megalithic tombs, but to emphasise rather the variability of the structural arrangements, and the implications that these may have had for the symbolic significance of the stones. In instances where the megalithic blocks were clearly visible in the external appearance of the monument, it is easy to contend that the tombs may incorporate the memories and associations of particular places from which those materials came. The rocky landscapes of the Atlantic façade provided both amply supplies of stone and a prominent series of landscape features that the builders of megalithic monuments may have been seeking to reference and imitate.

In this perspective, the megalithic blocks may have served as mnemonics, as visual reminders of other places in the landscape. Those places – the sources from which

the stones were taken – may in some cases have been spectacular in themselves, and have constituted a kind of 'natural' monument. The prominent schist outcrops around the Anta da Lajinha may have been just such 'natural' monuments. In building the tomb of this material, direct reference was being made to landscape features that had probably been of special significance for generations. That reference would have been reinforced if these stones remained partially visible from outside even after the mound had been completed.

Such direct visual links would have been unavailable where a megalithic chamber was entirely covered by its mound, and other kinds of symbolic association must be considered in those cases. One possibility is that the megalithic structure of the burial space reconstituted a natural feature that had been dismantled or 'exploded'. Studies of megalithic tombs in the Alentejo have shown how the capstones are from the horizontal upper surface of the outcrop and the orthostats from vertical fractures. Portal dolmens in southwest England may be granite tors dismantled and reassembled. In similar fashion, the timber chambers beneath the long mounds of southern Britain are often bracketed between post-holes that held twin D-shaped posts that may have been the halves of a single divided tree trunk (Noble 2006). This once again draws attention to the likely significance of the source of the material, be it a massive tree several centuries old, or a conspicuous cliff or outcrop.

At the same time, however, the proposal that megalithic architecture is driven by the identity and significance of the individual stones does not depend entirely on their external visibility. The colours and textures of the individual slabs would still have been visible from within the chambers, even if their shapes and sizes were partially occluded, and even though they could have been made out only in the flickering light cast by lamps or torches. Furthermore, visibility itself may not have been essential. The memory of the stones may have been sufficient, without any direct visual clues to their character or origin. In some cases, indeed, the slabs were transformed by smoothing and shaping, or by the addition of carvings or paintings, so that many features of their original form were intentionally removed or concealed. Whether covered or exposed, whether intact or reshaped, they represented identifiable elements of the landscape that had been appropriated and exploited. That different communities chose to do this in different ways should hardly surprise us. What lies behind them all, however, is the materiality and identity of the megalithic blocks themselves.

Acknowledgements

The excavations at the Anta da Lajinha were funded by the British Academy with generous support from the museum and municipality of Mação and the Instituto Politécnico de Tomar. My special thanks go to Professor Luiz Oosterbeek for his invitation to undertake this fieldwork and for his assistance with the numerous practicalities; and for information about the site of Jogada 5.

References

Bello Dieguez, J.M., 1996. Aportaciones del dolmen de Dombate (Cabana, La Coruña) al arte megalitico occidental, in *Art et Symboles du Mégalithisme Européen*

(eds. J. L'Helgouach, C-T. L Roux & J. Lecornec) Revue Archéologique de l'Ouest, Supplément no. 8, 23-39.

Bonstettten, A. de, 1865. *Essai sur les Dolmens*. Geneva: Fick.

Bradley, R., 1998. Ruined buildings, ruined stones: enclosures, tombs and natural places in the Neolithic of south-west England. *World Archaeology* 30, 13-22.

Brennand, M., & Taylor, M., 2003. The survey and excavation of a Bronze Age timber circle at Holme-next-the-Sea, Norfolk, 1998–9. *Proceedings of the Prehistoric Society* 69, 1-84.

Criado Boado, F., & Fabregas Valcarce, R., 1989. The megalithic phenomenon of northwest Spain: main trends. *Antiquity* 63, 682-696.

Cummings, V., & Whittle, A., 2004. *Places of Special Virtue. Megaliths in the Neolithic landscapes of Wales.* Oxford: Oxbow.

Dehn, T., & Hansen, S., 2006. Birch bark in Danish passage graves. *Journal of Danish Archaeology* 14, 23-44.

Dehn, W., Kalb, P., & Vortisch, W., 1991. Geologisch-petrographische Untersuchungen an Megalithgräbern Portugals. *Madrider Mitteilungen* 32, 1-28.

Dos Santos, A.P., 1994. *Monumentos Megalíticos do Alto Alentejo*. Lisbon: Fenda.

Evans, C., & Hodder, I., 2006. *A Woodland Archaeology. Neolithic Sites at Haddenham*. Cambridge: McDonald Institute for Archaeological Research.

Fergusson, J., 1872. *Rude Stone Monuments in All Countries; their age and uses.* London: John Murray.

Fleming, A., 1999. Phenomenology and the megaliths of Wales: a dreaming too far? *Oxford Journal of Archaeology* 18, 119-125.

Gonçalves, V.S., 1992. *Revendo as Antas de Reguengos de Monsaraz*. Lisbon: UNIARQ.

Grimes, W.F., 1948. Pentre-Ifan burial chamber, Pembrokeshire. *Archaeologia Cambrensis* 100, 3-23.

Horta Pereira, M.A., 1970. *Monumentos Históricos do Concelho de Mação*. Mação: Câmara Municipal de Mação.

Kalb, P., 1996. Megalith-building, stone transport and territorial markers: evidence from Vale de Rodrigo, Evora, south Portugal. *Antiquity* 70, 683-685.

Kinnes, I., 1975. Monumental function in British Neolithic burial practice. *World Archaeology* 7, 16-29.

Longueville Jones, H., 1865. Pembrokeshire antiquities. Cromlechs – Newton, Manorbier, St. David's Head, Pentre Ifan. *Archaeologia Cambrensis* 11, 281-285.

Lukis, W.C., 1864. On cromlechs. *Journal of the British Archaeological Association* 1864, 228-237.

Mourant, A.E., 1933. Dolmen de la Hougue Bie: nature and provenance of the materials. *Bulletin Annuel de la Société Jersiaise* 12, 217-220.

Noble, G., 2006. *Neolithic Scotland: Timber, Stone, Earth and Fire.* Edinburgh: Edinburgh University Press.

Richards, C., 1996. Monuments as landscape: creating the centre of the world in late Neolithic Orkney. *World Archaeology* 28, 190-208.

Richards, C., (ed.) 2003. *Dwelling Among the Monuments : an examination of the Neolithic village of Barnhouse, Maeshowe passage grave and surrounding monuments at Stenness, Orkney*. Cambridge: McDonald Institute for Archaeological Research.

Silva Louro, H. da, 1939. *Monografia de Cardigos*. Cucujãis: Escola Tipográfica do Seminário das Missões.

Tilley, C., 1994. *A Phenomenology of Landscape. Places, paths and monuments*. Oxford: Berg.

Tilley, C., 1996. The power of rocks: topography and monument construction on Bodmin Moor. *World Archaeology* 28, 161-76.

Tilley, C., & Bennett, W., 2001. An archaeology of supernatural places: the case of West Penwith. *Journal of the Royal Anthropological Institute* 7, 335-362.

Turner, R.C., 1992. Pentre Ifan burial chamber, Pembrokeshire. The story of the first ancient monument in Wales. *Transactions of the Ancient Monuments Society* 36, 99-118.

Vortisch, W., 1999. Geologisch-petrographische Untersuchungen an megalithischen Monumenten – Beispiele aus Portugal, in K.W. Beinhauer, G., Cooney, C.E. Guksch & S. Kus (eds) *Studien zur Megalithik. Forschunggsstand und ethnoarchäologische Perspektiven*. Weissbach: Beier & Beran, 275-288.

Whittle, A., 2004. Stones that float to the sky: portal dolmens and their landscapes of memory and myth, in *The Neolithic of the Irish Sea. Materiality and traditions of practice* (eds. V. Cummings & C. Fowler). Oxford: Oxbow, 81-90.